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A PSYCHOPHYSICAL VOCABULARY.

BY E. B. TITCHENER.

Experimental Psychology was in its origin, and has remained to a considerable extent in its development, a German science. One of the preliminaries to its assimilation by the English-speaking student, therefore, is the understanding of German psychological terms. But their understanding does not necessarily carry with it an Englishing of them. Indeed, there are many factors that make against translation.

In the year 1889—having ploughed through the book in the two previous years—I set to work to write out Wundt's *Physiologische Psychologie* in English, in the hope that its difficulties would be more easily overcome when met in this more familiar garb. I found, as a matter of fact, that they became greater. My reading of English psychology had given me no vocabulary adequate to the German text, and, imperfect as my knowledge of German was, I had fallen into the habit of psychologizing in a mixed jargon of the two languages. Although at the time I persevered with the translation, and have ever since endeavored to keep in mind duplicate vocabularies, nothing but the necessity of teaching and lecturing in English could have prevented a *lapsus* into unmixed German or the English-German mixture. To one trained in a German laboratory—as nine-tenths of the younger psychologists of to-day have been—thinking in German upon psychological questions must be easier than thinking either in English or French. A natural consequence is that technically psychological articles are dotted with German words and phrases, which the writer quite correctly assumes will be intelligible to his readers.

But now that there is growing up an American school of psychology, which promises to be only second in importance to the German, and that the number of home-trained students and future teachers is increasing, it becomes imperatively necessary for us to have at our disposal a working outfit of technical terms in our own language. And here English possesses

over German the great advantage that it can set aside such terms without any fear of their having a popular connotation which could give rise to misunderstanding. An 'impulse' is less liable to carry side meanings than a 'drive' would be, and I can 'cognize' with much better technical effect than I can 'know.' At the same time, this facility of technical coinage or usage is liable to abuse, and I suppose that few psychologists would refuse to admit that such abuse has actually occurred.¹

It is with these considerations in mind that I submit the following list of technical German words with English renderings. The great majority of them are taken from the indices of Wundt's large book and of Külpe's *Grundriss*. I have made use of such works as Ladd's "Elements of Physiological Psychology," Sanford's "Course in Experimental Psychology," the translations of Ziehen's *Physiologische Psychologie* and Wundt's *Vorlesungen*, etc. The medical dictionaries consulted rendered but little assistance. If many of the words included in the list seem too familiar to call for comment, I would ask the reader to remember that the vocabulary is meant to assist beginners; if any difficult terms have been omitted, their omission is unintentional. All the translations of new or unfamiliar words should be looked on as suggestions only. An asterisk prefixed to the German indicates that I am dissatisfied with its proposed English equivalent. Many of the terms are, in my opinion, altogether unnecessary or undesirable; but they occur and must be translated. Bracketing out, which I at first attempted, seemed likely to result in a special list, open to the charge of arbitrariness of selection, unless very full reasons were given; and these are not here in place. Some discussions follow at the conclusion of the paper.

ABHÄNGIGKEIT, dependency.

*ABKLINGEN, fall.

ABLENKUNG, distraction or diversion.

ABSTUFUNGSMETHODEN, gradation methods.

ACCORD, chord (*not* clang).

AEHNLICHKEIT, similarity.

AFFECT, emotion.

AGGLUTINATION, agglutination.

¹I am strongly of the opinion that the English nomenclature of psychological processes must be in the main of Latin-Greek origin, and not of 'Saxon.' The demand for a 'Saxon terminology' is simply a collateral result of our Germanization. Which of the natural sciences has a 'Saxon terminology?' Certainly not physics or chemistry. Good discussions of this question will be found in Smith's "Student's English Language," Lects. VIII, §7; IX, §7; and XII, §4.

ALLGEMEINVORSTELLUNG, general (*better, perhaps, than abstract*) idea.

ANGEBORENE VORSTELLUNG, connate (*if the context be modern theory*) or innate (*if the reference be to earlier writers*) idea.

*ANKLINGEN, rise.

*ANLAGE, disposition.

*ANSCHAUUNG, perception.

APPERCEPTION, apperception,

APPERCEPTIVE VERBINDUNG, apperceptive connection.

ASSIMILATION, assimilation.

ASSOCIATIVE VERBINDUNG, associative connection.

AUFRECHT-SEHEN, erect or reinverted vision.

AUGENAXE, optical axis.

AUGENMASS, visual space-appreciation or space discrimination.

AUGENSCHWARZ = *Eigenlicht*, q. v.

AUSDEHNUNG, extension.

AUSDRUCKSBEWEGUNG, expressive movement (*usually in the particular sense of expression of emotion*).

AUSDRUCKSMETHODE, method of expression (*affective*).

AUSFALLSERSCHEINUNG, phenomenon of abrogation.

AUSSCHALTUNG, exclusion.

BAHNUNG, facilitation.

BEDINGUNG, condition.

BEGEHREN, desire.

BEGIERDE, desire (*best general word; must often be qualified by a particular adjective*).

BEGRIFF, concept.

BEKANNTHEITSQUALITÄT, quality of contents as known or quality of knowiness (*probably better than familiarity*).

BEOBACHTUNGSFEHLER, error of observation.

BEREITSCHAFT, preparedness (*sometimes disposition*).

BERÜHRUNGSASSOCIATION, association by contiguity.

BERÜHRUNGSEMPFINDUNG, sensation of contact.

BEZIEHUNGSGESETZ, law of relativity.

BLICKFELD, field of regard.

BLICKLINIE, line of regard (*practically identical with Gesichtslinie*).

BLICKPUNKT, point of regard (= *Fixationspunkt*).

CENTRAL ERREGTE EMPFINDUNG, centrally excited sensation.

COMBINATIONSTON, combination tone.

COMPLICATION, complication.

CONSTANTER FEHLER, constant error.

CONTRACTIONSEMPFINDUNG, sensation of contraction.

CONTROLVERSUCH, test or check experiment.

DAUER, duration.

DECKBILD, congruent image (= *Ganzbild*).

DECKPUNKTE, congruent points (*sometimes = identical or corresponding*).

DEUTLICHKEIT, distinctness (*for Külpe = Klarheit; for Wundt different. See Klarheit below*).

DIFFERENZIRUNG, differentiation.

DIFFERENZTON, difference tone.

DISPOSITION, disposition.

DISSIMILATION, dissimulation.

DOPPELBILD, double image.

DOPPELTE BERÜHRUNGSEMPFINDUNG, sensation of double contact.

DREHPUNKT, centre of rotation.

- DREHSCHWINDEL, rotatory vertigo.
 DREIKLANG, common chord, triad (*better, as a rule, than triple clang*).
 DRUCKEMPFFINDUNG, pressure sensation.
 DRUCKPUNKT, pressure point or spot.
 DUR, major.
 EBENMERKLICH, just noticeable. or liminal.
 EIGENLICHT, intrinsic light (*of the retina*) or idio-retinal light.
 EINBILDUNG, imagination.
 EINFACHHEIT, simplicity.
 EINKLANG, unison.
 *EINSTELLUNG, predisposition.
 EINZELKLANG, single clang or note.
 ELEMENTE DES BEWUSSTSEINS, conscious elements.
 EMPFFINDEN, sense.
 EMPFFINDLICHKEIT, sensitivity.
 EMPFFINDUNG, sensation.
 EMPFFINDUNGSKREIS, sensation circle.
 ENTFERNUNG, distance.
 ERFAHRUNG, experience.
 ERHEBUNGSWINKEL, angle of vertical displacement or ascensional angle or angle of elevation.
 ERINNERUNG, recollection, remembrance, memory.
 ERINNERUNGSBILD, memorial image or idea.
 ERKENNEN, cognize.
 ERLEBNISS, fact or datum of experience.
 ERMÜDUNGSEMPFFINDUNG, sensation of fatigue.
 ERREGBARKEIT, excitability.
 ERREGEN, excite.
 ERREGUNG, excitation.
 ERWARTUNG, expectation.
 FARBE, color.
 FARBENTON, color-tone.
 FARBENGRAD, saturation.
 FEHLERMETHODEN, error methods.
 FEHLREIZ, error stimulus.
 FEINHEIT [*der Unterschiedsempfindlichkeit*], delicacy.
 FIXATIONSPUNKT, fixation point.
 FREI STEIGENDE [*Vorstellungen*], spontaneous.
 FUNDAMENTALFORMEL, fundamental formula.
 FUNDAMENTALTABELLE, fundamental table.
 GANZBILDER, congruent or total images (= *Deckbilder*).
 GEBERDENSPRACHE, gesture language.
 GEDÄCHTNISS, memory.
 GEFÜHL, feeling.
 GEFÜHLSTON, affection, affective tone or coloring.
 GEIST (*in modern usage*), mind.
 GEISTESSTÖRUNG, mental derangement.
 GELENKEMPFFINDUNG, articular sensation.
 GEMEINEMPFFINDUNG, common sensation.
 GEMEINGEFÜHL, common feeling.
 *GEMÜTH, feeling and will; the sum-total of affective-conative processes.
 GEMÜTHSBEWEGUNG, affective or affective-conative process or condition.
 GEMÜTHSVORGANG, affective or affective-conative process.

- GEMÜTHSZUSTAND, affective or affective-conative state.
 GERÄUSCH, noise.
 GERÄUSCHHÖHE, noise-pitch.
 *GESAMMTVORSTELLUNG, composite or complex idea; or resultant idea.
 GESICHTSLINIE, visual axis or line of vision.
 GESICHTSWINKEL, visual angle.
 GEWÖHNUNG, habituation.
 GLANZ, luster.
 GLEICHGEWICHTSEMPFINDUNG, sensation of equilibrium.
 GLEICHHEIT, parity or indistinguishableness (*in the doctrine of association; elsewhere often = Aehnlichkeit*).
 GOLDENER SCHNITT, golden section.
 GRÖSSE, magnitude.
 GRUNDEMPFINDUNG, primary or fundamental sensation.
 GRUNDFARBE, primary color.
 GRUNDKLANG, fundamental clang or tonic clang.
 GRUNDTON, fundamental or fundamental tone or tonic.

 HÄUFIGKEITSMETHODE, method of frequency.
 HALBBILD, single image.
 HANDLUNG, action.
 HAPTİK, haptics.
 HAUPTFARBE, principal color.
 HAUPTRICHTUNGSSTRAHL, principal line of direction (= *Gesichtslinie*).
 HAUTEMPFINDUNG, cutaneous sensation.
 HAUTSINN, cutaneous sensibility.
 HELLGKEITSEMPFINDUNG, sensation of brightness.
 HEMMUNG, inhibition.
 HEMMUNGSWIRKUNG, inhibitory effect or action.

 INDIFFERENZPUNKT, indifference point (*qualitative*).
 INDIFFERENZZEIT, natural or normal time.
 INNERVATIONSEMPFINDUNG, sensation of innervation.
 INTELLECTUELLES GEFÜHL, sentiment (= *the so-called emotion of relation*).
 INTENSIVE SENSIBILITÄT, intensive sensibility.
 INTERMITTENZTON, tone of intermittence.

 KÄLTEPUNKT, cold point or spot.
 KINÄSTHETISCHE EMPFINDUNG, kinæsthetic sensation.
 KLANG, clang (*not chord*).
 KLANGEINHEIT, clang unity or simplicity.
 KLANGFARBE, clang-color or timbre.
 KLANGVERWANDSCHAFT, clang relationship.
 KLARHEIT, plainness (*better, probably, than vividness: see Deutlichkeit, above*); clearness.

 LAGEEMPFINDUNG, sensation of position.
 LEIDENSCHAFT, passion.
 LEITTON, leading tone or note.
 LEITUNG, conduction.
 LEITUNGSBAHN, conduction path; tract.
 LICHEMPFINDUNG, light sensation.
 LOCALZEICHEN, local sign (*collective local signature*).
 LUST, pleasantness.
 LUSTGEFÜHL, pleasure.

- MASSFORMEL, formula of measurement.
 MASSMETHODEN, measurement methods.
 MERKLICHKEIT, noticeableness.
 MESSBARKEIT, measurableness.
 METHODE DER AEQUIVALENTE, method of equivalents.
 METHODE DER EBENMERKLICHEN REIZE, method of just noticeable stimuli.
 METHODE DER MINIMALÄNDERUNGEN, method of minimal changes.
 METHODE DER MITTLEREN ABSTUFUNGEN, method of mean gradation.
 METHODE DER MITTLEREN FEHLER, method of average error.
 METHODE DER RICHTIGEN UND FALSCHEN FÄLLE, method of right and wrong cases.
 METHODEN DER SINNESEMPFINDLICHKEIT, sensitivity methods.
 METHODE DER ÜBERERMRKLICHEN UNTERSCHIEDE, method of supraliminal differences.
 MIMISCHE REFLEXE, mimetic reflexes.
 MITBEWEGUNG, concomitant movement.
 MITEMPFINDUNG, concomitant sensation.
 MITTELBARE EMPFINDLICHKEIT, indirect or mediate sensitivity.
 MOLL, minor.
 MUSKELEMPFINDUNG, muscle sensation.
 MUSKELSINN, muscle sense.
 MUSKELSPANNUNGSEMPFINDUNG, sensation of muscular strain.

 NACHDAUER, after-duration.
 NACHEMPFINDUNG, after-sensation.
 NEBENINTERVALL, overtone interval or interval of the second order.
 NETZHAUTBILD, retinal image.
 NORMALREIZ, standard stimulus.
 NULLVERSUCH, blank experiment (= *Vexirversuch*).

 OVERTON, overtone or partial tone.
 OPTISCHE TÄUSCHUNG, optical illusion.
 ORGANEMPFINDUNG, organic sensation.
 ORIENTIRUNG, orientation.
 ORTSSINN, sense of locality.

 PERIPHERISCH ERREGTE EMPFINDUNG, peripherally excited sensation.
 PERSÖNLICHE GLEICHUNG, personal equation.
 PHANTASIE, imagination (= *Einbildung*).
 PRÄCISIONSMASS, measure of precision.
 PSYCHOPHYSISCHES GRUNDGESETZ, psychophysis law or primary psychophysical law.

 RADDREHUNG, torsion or swivel rotation.
 RAUHIGKEIT, harshness.
 RAUMLAGE, position in space.
 RAUMSCHÄTZUNG, spatial estimation.
 RAUMSINN DER HAUT, cutaneous space sense.
 REAGENT, reagent or reactor.
 REIHENMETHODE, serial method (*affective*).
 REIZ, stimulus.
 REIZBARKEIT, irritability or susceptibility to stimulus or stimulation (*not* excitability).

REIZHÖHE, terminus of (effective) stimulation (*often loosely used as = last noticeable stimulus; cf. ebenmerklicher Reiz*).

REIZUMFANG, range of (effective) stimulation.

REIZUNG, stimulation.

REPRODUCIRBARKEIT, reproductivity (*passive*).

REPRODUCTION, reproduction.

REPRODUCTIONSFÄHIGKEIT, = *Reproducirbarkeit (passive)*.

REPRODUCTIONSGRUNDLAGE, material of reproduction.

REPRODUCTIONS MOTIV, incentive to reproduction.

REPRODUKTIONSTENDENZ, liability of reproduction.

REPRODUKTIONSTREUE, fidelity of reproduction.

RICHTLINIE, right line.

RICHTUNGSSTRAHLEN, lines of direction.

RINDENBLINDHEIT, cortical blindness.

ROLLUNG = *Raddrehung*, *q. v.*

SÄTTIGUNG, saturation.

SCHÄTZUNGSFEHLER, error of estimation.

SCHALL, sound.

SCHMERZ, pain.

SCHWANKUNGEN DER AUFMERKSAMKEIT, oscillations or fluctuations of the attention.

SCHWEBUNGEN, beats.

SCHWELLE, limen.

SCHWINGUNGSZAHL, vibration rate.

SEELE (*in modern usage*), mind.

SEELENBLINDHEIT, mental or psychical blindness.

SEHFELD, field of vision.

SEHNENEMPFIINDUNG, tendinous sensation.

SEITENWENDUNGSWINKEL, angle of lateral displacement.

SIGNALREIZ, warning stimulus, ready signal.

SINN, sense, sensibility, modality.

SINNESEMPFINDLICHKEIT, modal sensitivity.

SINNESEMPFIINDUNG, sensation of special sense.

SINNESPUNKT, sensitive point or spot.

SINNLICHES GEFÜHL, sense-feeling or peripherally excited feeling.

SPANNUNGSEMPFIINDUNG, sensation of strain.

SPIEGELUNG, reflexion or mirroring.

STATISCHER SINN, static sense.

STIMMUNG, mood.

STOSSTON, beat tone.

STREBEN, effort.

SUBJECTIVE BETONUNG, subjective accentuation.

TASTEMPFIINDUNG, sensation of touch or tactual sensation.

TIEFENVORSTELLUNG, idea of depth or the third dimension.

TONHÖHE, pitch or tonal quality.

TONVERSCHMELZUNG, tonal fusion.

TRIEB, impulse.

TRIEBBEWEGUNG, impulsive movement.

UEBERMERKLICH, supraliminal.

UNLUST, unpleasantness.

UNLUSTGEFÜHL, unpleasant feeling.

UNTERSCHIEDSEMPFINDLICHKEIT, sensible discrimination (*better than difference sensitivity*).

UNTERSCHIEDSHYPOTHESE, difference hypothesis.

UNTERSCHIEDSSCHWELLE, difference limen or limen of difference.

- UNWISSENTLICHES VERFAHREN, procedure without knowledge.
 VERBINDUNG, connection.
 VERGLEICHSREIZ, stimulus of comparison.
 VERHÄLTNISSHYPOTHESE, relation hypothesis.
 VERKNÜPFUNG, conjunction or colligation (*better than combination*).
 VERSCHMELZUNG, fusion (*better than blending*).
 VEXIRVERSUCH, puzzle experiment (*not so good as Nullversuch, q. v.*).
 VISIRLINIE, sighting line or line of aim.
 VÖLKERPSYCHOLOGIE, social psychology or psychology of nations.
 VORSTELLUNG, idea.
 WÄRMEPUNKT, heat point or spot.
 WAHL, choice or selection.
 WAHNVORSTELLUNG, delusive idea.
 WAHRNEHMUNG, perception.
 WAHRSCHEINLICHER FEHLER, probable error.
 WETTSTREIT DER SEHFELDER, retinal rivalry.
 WIDERSTANDSEMPFINDUNG, sensation of resistance.
 WIEDERERKENNEN, recognize.
 WILLE, will.
 WILLENSHANDLUNG, voluntary action.
 WILKÜRHANDLUNG, selective action.
 WISSENTLICHES VERFAHREN, procedure with knowledge.
 ZEITFEHLER, time error.
 ZEITHOF, time fringe.
 ZEITLAGE, position in time or temporal position.
 ZEITORDUNG, temporal arrangement or disposition.
 ZEITSINN, time sense.
 ZEITVERSCHIEBUNG, time or temporal displacement.
 ZERSTREUTHEIT, absent-mindedness or distraction.
 ZERSTREUUNGSBILD, dispersion or diffusion image.
 ZUSAMMENKLANG, compound clang.
 ZUSTAND, state (*not condition; cf. Bedingung*).
 ZWANGS-, compulsory.
 ZWEITHEILUNG, dichotomy.

The discussion of the terms to which an asterisk is prefixed can hardly be anything more than an expression of despair as regards the discovery of single equivalents in English.

1. *Anklingen* and *Abklingen*.—For the *farbiges Abklingen der Nachbilder*, the phrase *flight of colors* seems fairly good. For the terms themselves, *rise* and *fall* are, perhaps, the most universally applicable translations.

2. *Anlage* and *Einstellung*.—None of the words proposed by the morphologists (*proton, rudiment, primule, blast, incept*, etc.) seems to fit the psychology of *Anlage*. And *disposition* and *predisposition* are too vague to be really adequate.

3. *Anschauung* and *Wahrnehmung*.—I do not know how these two terms can be distinguished.

4. *Gemüth* should have a single equivalent, but I cannot find one.

5. *Gesamtvorstellung*, *Allgemeinvorstellung*, etc.—These terms must be translated according to context. They are, for the most part, used in specific senses by different authors.